

SOURCE INVENTORY
CATEGORIES #55-#58, #84-#85, #940
STORAGE TANKS

1999 EMISSIONS*Introduction*

Tanks are used to store raw materials, intermediate products, finished products, and wastes. There are numerous intermediate products in a refinery including liquefied petroleum gas, gasolines, kerosenes, diesels, and fuel oils. The waste products include wastewater, spent acids, and oily sludges.

Categories 56-58 contain emissions from refineries tanks, and categories 84-85 account for emissions from tanks at other sites. Category 940 accounts for emissions from cleaning of all storage tanks.

Storage tanks at bulk plants and gasoline stations are inventoried in sections 6.4 and 6.9, respectively.

*Methodologies***Point Source:**

Emissions are calculated from each tank in the data bank using emission calculation equations in AP-42. Following factors are used in the equations:

type of tank	tank diameter	paint factor	tank height
vapor space	temperature change	tank volume	throughput
stored material	factors specific to stored material		

The county, month, and day factors are obtained from the data bank's information for each category.

Area Source:

Category 84 and 85 contain both point and area sources. Area source throughputs were derived from point source throughputs for each category. A generalized emission factor was used to calculate emissions.

TRENDS*History*

Emissions have generally varied with refinery throughputs.

Growth

Projected emissions for all refinery related categories were taken from the December 1990 energy report by Purvin & Getz Inc. that predicts a US petroleum consumption growth of approximately one percent per year.

Control

Regulation 8 Rule 5 controls emissions from the storage of organic liquids. Control efficiencies are estimated to range from 17% to 95%, depending on the type of tank, percentage of sources with true vapor pressures above 0.5 psi, and average true vapor pressure of the corresponding category. The following table show the control and rule efficiencies. (Sources with true vapor pressure greater than 0.5 psi are affected by this rule.)

<i>Cat #</i>	<i>type of tank/category</i>	<i>% less than 0.5 psi</i>	<i>average true vapor pres.,psi</i>	<i>% control efficiency</i>	<i>% rule effectiveness</i>
55	cone roof	87	1	17	97
56	ext. floating roof	24	4	65	98
57	int. floating roof	30	3	60	100
58	other refinery	33	>>20	96	99
84	cone roof	62	3	32	98
85	other non-refinery	46	8	65	65
940	tank cleaning	--	--	88	98